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EXAMINER

JAIN, RAJ K

ART UNIT PAPER NUMBER

2664

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/473,022

Applicant(s)

UENO, HIROSHI

Examiner

Raj K Jain

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/28/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katoh et al (US005949757A) hereafter as Katoh in view of Elwalid (US005,646,943).

Regarding claims 1 and 9, Katoh discloses an ATM (Asynchronous Transfer Mode) (see Figs 1 & 2) multiplexing apparatus for connection to an ATM switching unit (see Figs 4 and 24) and each of plural subscribers through ATM communication lines and performing multiplexing processing to ATM cells sent from the plural subscribers, the ATM multiplexing apparatus comprising:

- detection means for detecting a congestion state corresponding to received ATM cells from the subscribers and outputting a warning signal according to the congestion state (see Figs 2 and 26, col 17 lines 5-20, congestion is detected via means of output buffers exceeding a preset threshold value, those exceeding the threshold value provide a notification signal to the UPC/NPC the congestion state of the buffers);

- discard means for selectively discarding the received ATM cells from the subscribers on the basis of a communication state determined by received ATM cells

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from the ATM switching unit and the received ATM cells from the subscribers (see Figs 3A, 3B, col 6 lines 333-60, selective cell discard is performed using nonconforming cells (i.e. monitor rate) to discard cells for each flow rate that exceeds a given threshold).

Katoh fails to disclose a signal level value indicating the amount of congestion.

Elwalid discloses congestion control using a signal level value indicating the amount of congestion (see abstract, col 2 lines 27-40, 55-col 3 line 10, col 3 lines 47-52, a feedback signal having a level value is sent back from a node indicating the amount of congestion.)

The feedback congestion control techniques can advantageously be integrated to overcome the delay and stability problems of feedback control. Feedback control is utilized to ensure efficient operation of the switch. Since the output port buffers in the core switch module are small, they can quickly overflow.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the feedback signaling technique of Elwalid within Katoh with a level value indicative of the amount of congestion in a given output buffer so as to ensure efficient operation of a switch by preventing overflow of the buffer.

Further with respect to claim 9, data may be fixed or updated each time a connection is established (see col 10 line 2).

Regarding claim 2, Katoh discloses where communication state is updated on the basis of header information and its received notification included in the received ATM cells from the ATM switching unit or header information and its received

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notification included in the received ATM cells from the subscribers (see col 15 lines 1-15, connection identification is reference to VPI/VCI and notification and update is performed based on conformity or nonconformity of cells).

Regarding claim 3, Katoh discloses the detection means comprises storage means for storing the received ATM cells from the subscribers, and comparison means for generating the warning signal on the basis of the degree of occupancy in the storage means of the stored ATM cells and the preset threshold (see Figs 24-26, col 17 lines 10- 24).

Regarding claim 4, Katoh discloses: switching unit monitor means for receiving the ATM cells from the ATM switching unit and outputting header information and received notification of the received ATM cells from the ATM switching unit as first header information and first received notification (see Figs 24-26, col 17 lines 10- 24);

subscriber monitor/selection means for receiving the ATM cells from the subscribers and outputting header information and received notification of the received ATM cells from the subscribers as second header information and second received notification and selectively discarding the received ATM cells from the subscribers on the basis of a discard command (see Fig 22, col 16 lines 26-50, VPI/VCI conversion is performed for incoming cells and discarded based on conformity of cells) ; and

discard control means for updating status data indicating the communication state on the basis of the first header information and the first received notification or the second header information and the second received notification and generating the discard command for commanding discard of the received ATM cells from the

subscribers on the basis of the updated status data and the level value of the warning signal (see Fig 22 and 24, col 16 lines 26-50, 57-64, VPI/VCI conversion is performed for incoming cells and discarded based on conformity of cells, updated data is stored within each buffer).

Regarding claim 5, Katoh discloses in addition to limitations of claim 4 the elapsed time decision function via time interval (see col 6 lines 10-16, a time out signal is used for cells arriving at the UPC/NPC facility that do not meet the time interval preset and are regarded as nonconforming and therefore discarded.)

Regarding claim 6, Katoh discloses an ATM multiplexing apparatus with the updated status data is generated on the basis of criteria of the preset state transition (see Fig 22, col 16 lines 25-35, preset state transition is setup based on when a connection that is established and written in the VPI/VCI table.)

Regarding claim 7, Katoh discloses an ATM multiplexing wherein the discard command is generated on the basis of criteria of the preset logic decision (see abstract, col 17 lines 20-25, the preset logic is based on threshold values for each output buffer and thus discard command is issued for those buffers exceeding the preset threshold value.).

Regarding claim 8, Katoh discloses an ATM multiplexing which includes; connection data providing a two-way connection state established by the received ATM cells from the ATM switching unit and the received ATM cells from the subscribers (see Figs 11-13 and col 16 lines 14-24), position data providing a position of the received ATM cells from the subscribers in a packet signal corresponding to an ATM adaptation

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layer (AAL)5 (see Fig 22 and col 16 lines 24-43), discard data providing whether cell discard processing corresponding to the packet signal is performed or not when the ATM cells from the subscribers constitute the packet signal (see abstract and col 4 lines 7-36 and col 6), and an AAL data indicating whether the received ATM cells from the ATM switching unit and the subscribers constitute the packet signal or not.

Response to Arguments

Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raj Jain whose telephone number is 571-272-3145.

The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2600.

RJ
January 5, 2005

A handwritten signature in black ink, appearing to be 'W. Chin', with a long horizontal line extending to the right.